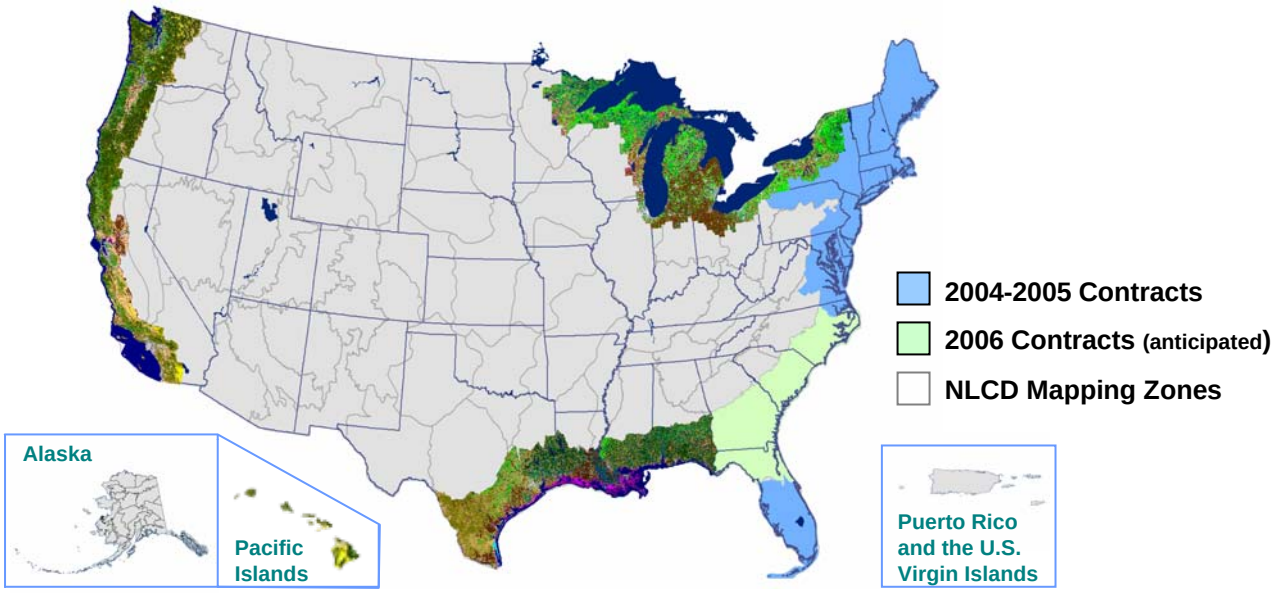
Coastal Land Cover

The National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center is developing a nationally standardized database of land cover within the coastal regions of the U.S. These land cover data are developed using remotely sensed imagery, as part of NOAA's Coastal Change Analysis Program (C-CAP). C-CAP derived land cover products inventory coastal intertidal areas, wetlands, and adjacent uplands with the goal of monitoring changes in these habitats, and their quality, on a one- to five-year cycle.



Partnering to Build a National Land Cover Database

As part of the C-CAP mapping effort, NOAA has partnered with the U.S. Geological Survey (USGS) and several other federal agencies, within the Multi-Resolution Land Characteristics (MRLC) consortium, in producing the latest version of the national land cover database (NLCD).

This land cover and land cover change information can be used by coastal resource managers, through their geographic information system (GIS), to aid them in making difficult management decisions.

All coastal land cover products developed by NOAA are directly incorporated into the NLCD. These products are produced with common methods and a combined classification scheme, with specific emphasis on the wetlands categories.

NOAA awards contracts to private industry to develop the C-CAP products with target accuracy requirements of 85 percent overall. These requirements are met through supplemental processing, as well as significant field sampling and validation.

An immediate goal of C-CAP is to expeditiously complete a national baseline of coastal land cover and change data. Once the baseline is complete, five-year updates will be pursued.

Product Specifications

- Derived from Landsat satellite imagery
- 30 meter pixels
- 85 percent accuracy or better
- Detailed wetlands classes
- Land cover data for two or more time periods
- Change information between time periods

To learn more about C-CAP, visit the Web site at

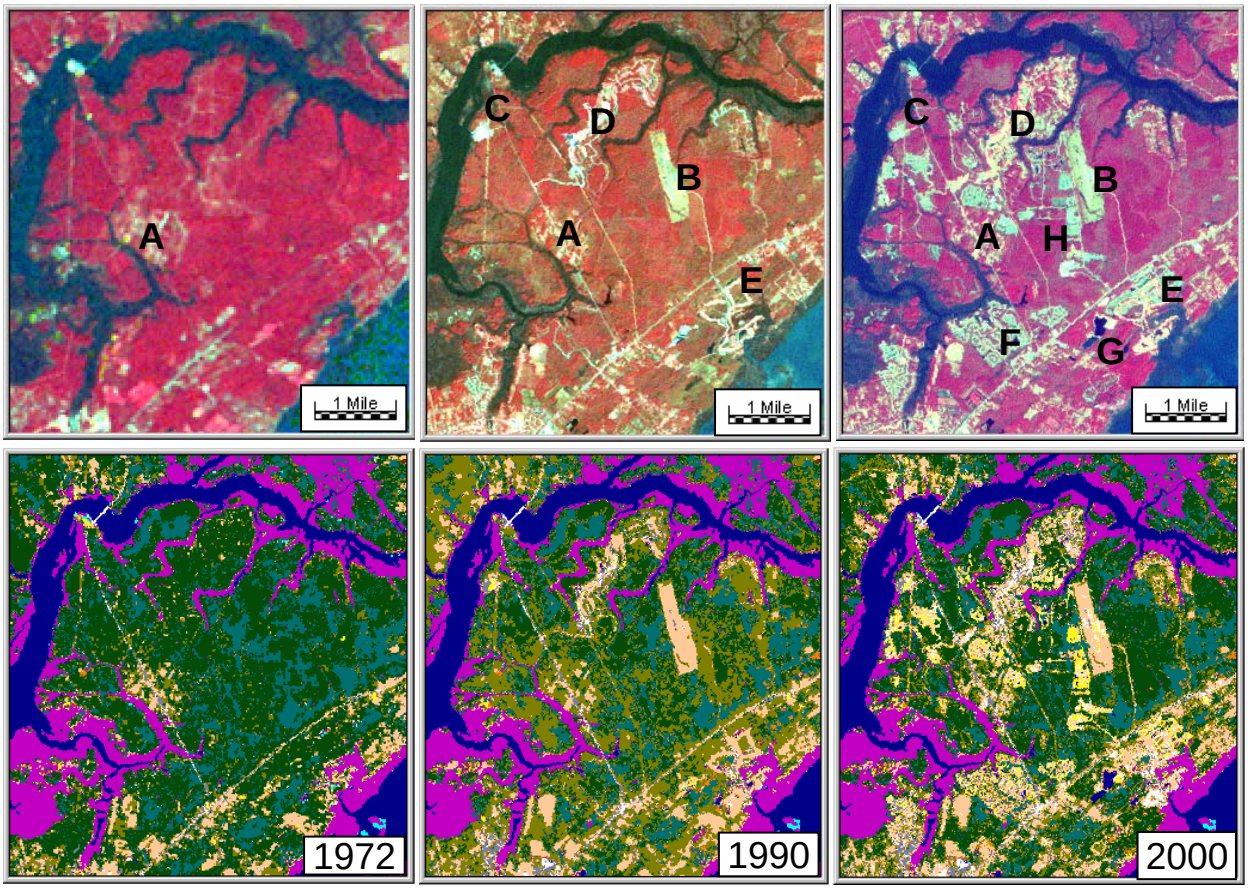
www.csc.noaa.gov/landcover

NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Coastal Change Analysis

Examining Changes and Trends

Coastal Change Analysis Program (C-CAP) baseline land cover products quantify and locate the changes that occur between at least two time periods. Once this national baseline is complete, the addition of subsequent dates of imagery will produce a series of land cover data, from which changes over time can be observed. This trend information will give important feedback to managers on the success or failure of management policies and programs, allow them to track changes in the environment through time, assess the cumulative effects of development, the impacts of land use on water quality, and aid in the identification of indicators that link land use change with ecosystem health.



A Small community; **B** Local airport; **C** Shipyard expansion; **D** Residential golf course development; **E** Residential golf course development; **F** Residential development; **G** Lake and campground; **H** Land clearing for residential development

The above example shows imagery (top) and C-CAP land cover (bottom) over a 30 year period for an area along the Wando River outside Charleston, South Carolina. The dark greens of the land cover represent areas of forest. The dramatic loss of forest in 1990 is due to both increasing development within the area (specific areas of change are labeled and described) and damage due to the impacts of hurricane Hugo. These areas are dominated by regrowth of the remaining scrub/shrub understory. Scrub is depicted as olive green.

While there has been a significant amount of forest regrowth by 2000, it is also clear that the residential population has grown greatly. A vast increase in both developed areas (whites and grays) as well as lands cleared for development (tan and yellow) dominant the land cover.

For more information:

Nate Herold
NOAA Coastal Services Center
Charleston, South Carolina
Nate.Herold@noaa.gov
(843) 740-1183

NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY